REMARKS

The Examiner previously rejected claims 19-23 and 26-29 as obvious over Huffman et al., disclosing a laminate with a EVOH barrier layer, in view of Pearson et al, disclosing the range 10-40% EVOH in an EVOH/polyolefin blend. Pearson states that blends having greater than 40% are not used due to their cost. Claims 24 and 30 are rejected over these two references and further in view of Bradfute et al. and Rosenbaum et al.

The Examiner also rejected the claims as obvious over Huffman et al. in view of Svensson, disclosing a EVOH/polyolefin blend, and Harita et al. Claims 23, 25, 29 and 31 were rejected over these three references and further in view of Charrier while claims 24 and 30 were rejected over these three references and further in view of Bradfute et al. and Rosenbaum.

EVOH is often used in laminates for superior oxygen barrier qualities. The drawback of EVOH is the cost. EVOH/ polyolefin blends are used to create a barrier layer having reduced costs. There is a linear relationship between the costs and the percentage of EVOH used in the blend.

As thoroughly discussed in the specification and reported in the tables of the specification, the inventors have found that an EVOH/polyolefin blend having 35% or greater EVOH behaves as an EVOH layer. Specifically, such a blend will not adhere to a polyolefin layer in the absence of a tie layer. Due to the blends behavior similar to an EVOH layer, the absence of a tie layer will result in a laminate that will quickly delaminate due to the poor bond between the blend layer and polyolefin layer.

More importantly, the inventors have found that a blend having 35% EVOH exhibits far superior barrier characteristics, including the Oxygen Transmission Rate (OTR), than a blend having 30%. This data is reported in the tables and shown graphically on the accompanying graphs. As can be seen, when comparing blends having 30% and 35% EVOH, the additional EVOH results in an

exponential drop in the oxygen transmission rate. The lower the OTR, the better the barrier characteristics of the blend. This is in contrast to the statement by Pearson that the increase in EVOH results in an expensive barrier layer. The superior barrier characteristics of a 35% EVOH blend more than justifies the cost of the amount of EVOH used. It would be possible to use much thinner barrier layer of a 35% EVOH blend and still have a superior OTR as compared to a 30% blend.

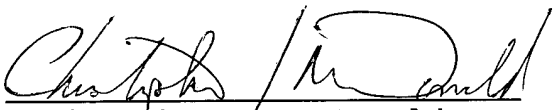
As stated previously, there is a linear relationship with regard to cost and percent EVOH used in a blend. One of ordinary skill in the art would also expect a linear relationship between the barrier characteristics, specifically OTR, and the percent EVOH. The inventors have found that 35% EVOH represents a threshold for a blend exhibiting characteristics of a pure EVOH layer. This discovery of unexpected result is patentable despite the disclosure of Pearson and Svensson. The situation is analogous to that found in In re Waymouth 499 F.2d 1273, 1276; 182 USPQ 290, 293 (CCPA 1974) wherein the court held that "unexpected results for claimed range as compared with the range disclosed in a prior art have been shown by demonstration of "a marked improvement, over the results achieved under other ratios, as to be classified as a difference in kind, rather than one of degree." The court stated that "Although Reiling's range envelops the range claimed by appelants, we believe that the appelant's graph in Figure 2 demonstrates the necessary unexpected result." Id at 293. The court further clarified this statement in Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. and Inter. 1992) where the board stated "we generally consider a discussion of results in terms of 'differences of degree' as compared to 'differences in kind'...to have very little meaning in a relevant legal sense". These cases are referenced in MPEP 716.02.

In the instant case, the exponential decrease in OTR, a beneficial result, results from the inventors' recognition that the blend having 35% is the lower threshold for the blend exhibiting

characteristics similar to pure EVOH. The exponential decrease in OTR, coupled with the linear increasing cost allows the end user to use a thinner barrier layer while still gaining superior barrier qualitites. The dramatic decrease is shown in the attached graphs. As a specific example, the data for Example 1 has an OTR of 507 cc/m^2/atm/day when 30% EVOH is used whereas the 35% EVOH blend has an OTR 52 cc/m^2/atm/day. The represents an OTR of 10.26% for an increase of only 5% EVOH in the blend.

The recognition of the 35% threshold in a blend layer is a patentable invention and a favorable action is eagerly and earnestly solicited. If any issues remain, and the Examiner believes a telephone conversation would resolve such issues, the Examiner is urged to contact the undersigned attorney.

Respectfully submitted,



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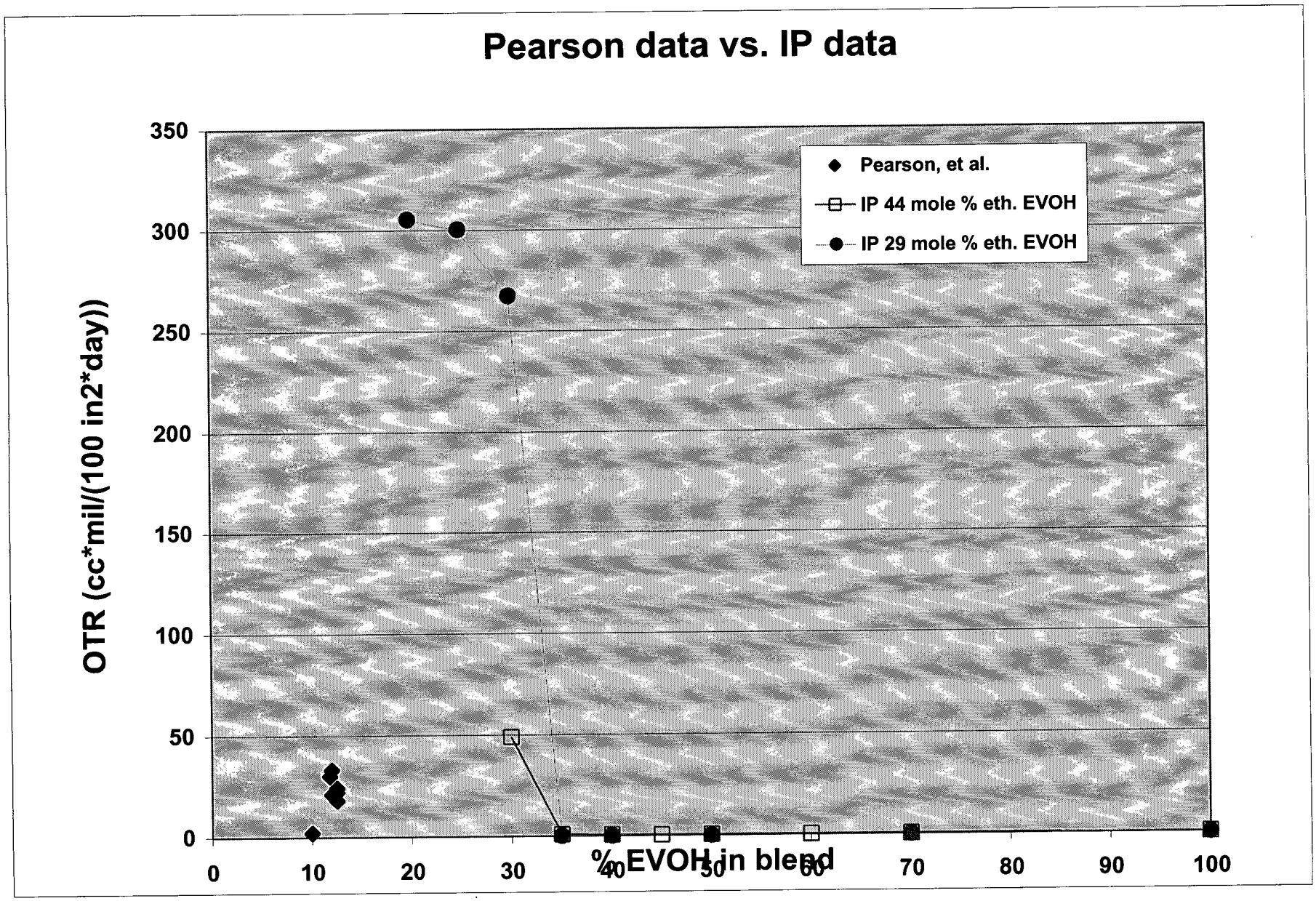
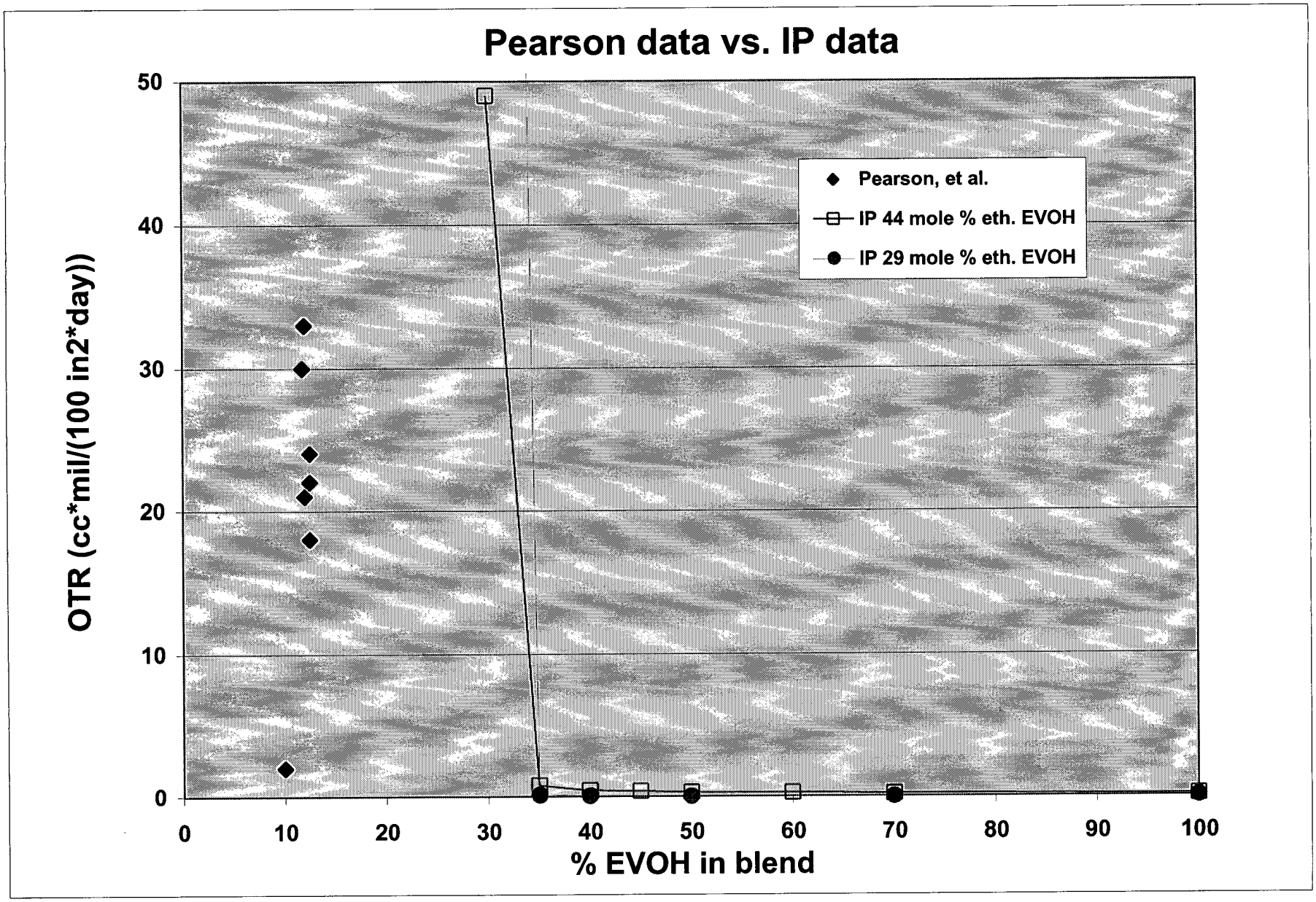
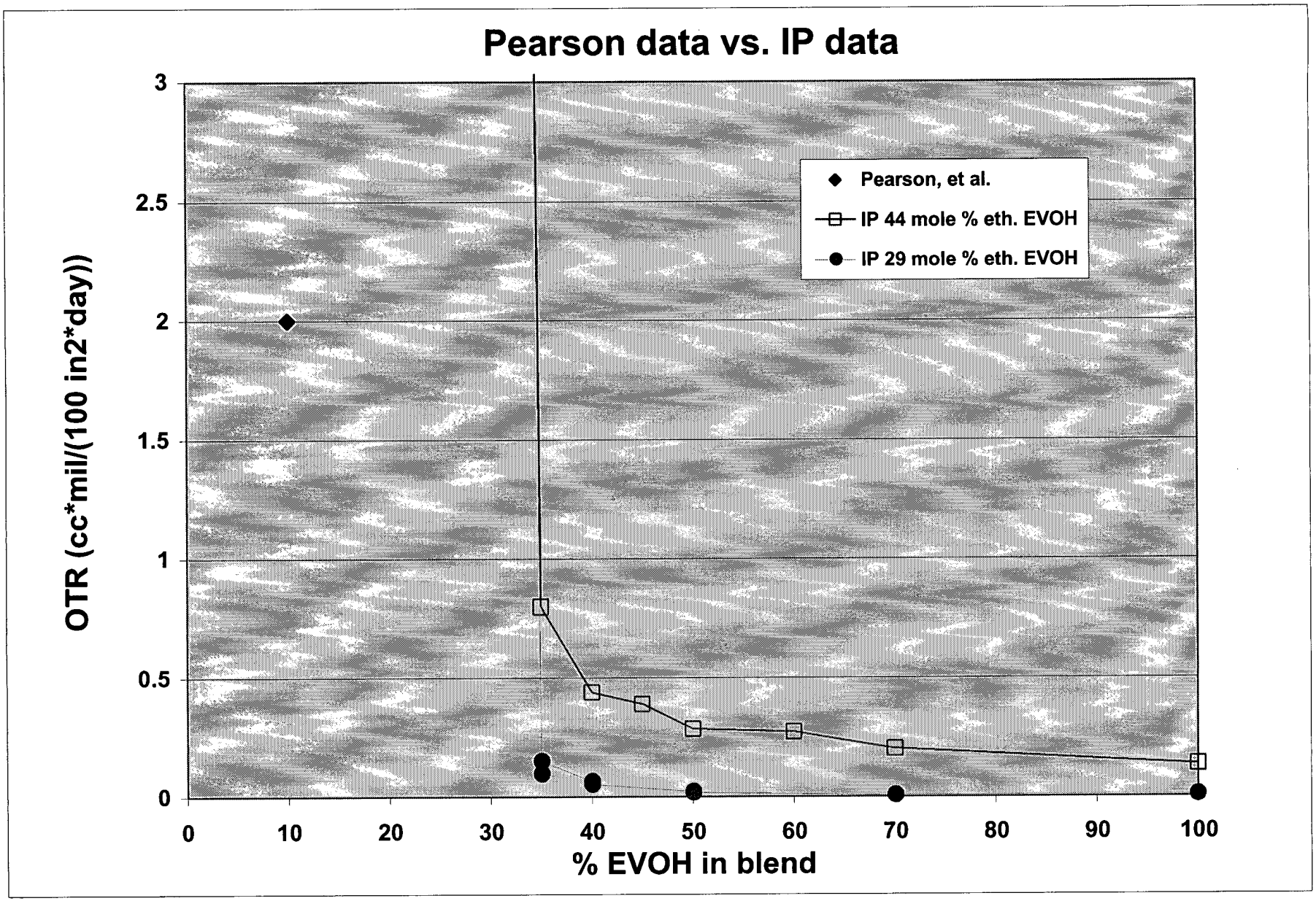

Pearson data vs. IP data
OTR (cc*mil/(100 in2*day))
350
300
250
200
150
100
50
0
0
10
20
30
40
50
60
70
80
90
100
%EVOH in blend
Pearson, et al.
IP 44 mole % eth. EVOH
IP 29 mole % eth. EVOH


Pearson data vs. IP data
OTR (cc*mil/(100 in2*day))
% EVOH in blend
Pearson, et al.
IP 44 mole % eth. EVOH
IP 29 mole % eth. EVOH
0
10
20
30
40
50
60
70
80
90
100


Pearson data vs. IP data
OTR (cc*mil/(100 in2*day))
% EVOH in blend
Pearson, et al.
IP 44 mole % eth. EVOH
IP 29 mole % eth. EVOH
0
0.5
1
1.5
2
2.5
3
0
10
20
30
40
50
60
70
80
90
100